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| 10/731,335      | 12/09/2003  | James E. Pickering   | 86414WRZ            | 3546             |

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| EXAMINER |
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| ART UNIT | PAPER NUMBER |
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2854

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/731,335

Applicant(s)

PICKERING ET AL.

Examiner

Daniel J. Colilla

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-17 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10,14-17 and 25-30 is/are allowed.
- 6) ☒ Claim(s) 1,3,5-8,11-13,20-24,31 and 32 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 and 25 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 20 and 24 applicant recites that the percentage of the carrier that is removed from the recording element by the first station is a minimum amount necessary to prevent blistering of the recording medium. This language does not appear to have the meaning intended by applicant. The smallest amount of carrier that can be removed (the minimum) is one molecule of the carrier, or one smallest unit of whatever type of carrier there is. Certainly there are numerous ways this amount of carrier can be removed without blistering the recording element. However, the removal of one molecule or one smallest unit of the carrier does not appear, to the examiner, as applicant's intended meaning behind this language since there appears to be no practical application of carrying out this particular step.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 5, 7-8, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Vincent et al. (US 5,041,846).

With respect to claim 1, Vincent et al. discloses an apparatus and method for treating a recording element including a carrier removal station (heater 70) for removing carrier by drying liquid in the carrier, and a converting station (rollers 130,150, col. 4, lines 35-45) which dries the ink and makes the recording element more durable as shown in Figure 4 of Vincent et al. While Vincent et al. does not explicitly recite that a predetermined percentage of carrier is removed, it is inherent in the design of the system that the carrier removed be within an adequate, predetermined range that achieves the desired function without removing too much carrier and causing damage to the recording element. With respect to the predetermined percentage of the carrier that is removed being based on a minimum amount that needs to be removed to prevent blistering, this determination is a functional recitation. The apparatus disclosed by Vincent et al. has the capability to remove the required amount of carrier regardless of how the predetermined percentage was calculated. It is noted that applicant's use of the term "based on" does not provide any definite relation between the minimum amount to prevent blistering and the percentage of carrier that is removed.

With respect to claim 3, Vincent et al. discloses fully drying the recording element which would mean 100% of the carrier is removed (col. 5, lines 9-11).

With respect to claim 5, the carrier removal station 70 includes heating element 80 for applying heat to the recording element as shown in Figure 2 of Vincent et al.

With respect to claim 7, Vincent et al. discloses that the heaters maybe forced convection heaters (col. 3, lines 52-55).

With respect to claim 8, since Figure 4 of Vincent et al. shows that the carrier removal station 70 and the converting station are adjacent to one another.

With respect to claim 11, Vincent et al. discloses a controller electrically connected to heating elements 80 for adjusting an operating parameter (temperature) of the carrier removal station 70 (col. 3, lines 23-31).

With respect to claim 13, Vincent et al discloses a criteria (temperature level 160°) stored in the controller for use in adjusting the operating parameter of the controller (col. 3, lines 23-31).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent et al. (US 5,041,846), as applied to claim 1 above, and further in view of Ferran et al. (US 2005/0068396).

Vincent et al. discloses the claimed apparatus for treating a recording element except they do not teach that the carrier removal station includes an infrared radiation element. However, Ferran et al. teaches an apparatus for treating a recording element including a carrier removal station 312 which includes an infrared element 404 as shown in Figure 4 of Ferran et al. (Ferran

et al., paragraph [0024], lines 1-5). It would have been obvious to combine the teaching of Ferran et al. with the apparatus disclosed by Vincent et al. for the advantage of the Sensors 214 which may monitor the ambient temperature and humidity within which the printing device is operating. Using information from the sensors, the IR lamp 210 may be operated to produce a desired amount of IR energy. For example, the IR lamp 210 may be turned on and off, or its output turned up or turned down, based on the ambient temperature and/or humidity within which the print media is drying (Ferran et al., paragraph [0021]).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the second interpretation of Vincent et al. (US 5,041,846) as applied to claim 1, and further in view of Nakazato et al. (US 5,930,551).

With respect to claim 12, Vincent et al. discloses the claimed apparatus except for the user being able adjust the operating parameter. However, Nakazato et al. teaches a converting station (fuser 107) which has a controller 400 and a temperature (operating parameter) that is adjustable by a user (Nakazato et al., col. 12, lines 25-29). It would have been obvious to combine the teaching of Nakazato et al. with the apparatus disclosed by Vincent et al. for the advantage of being able to adjust the temperature of the fuser 107 so that it can be optimally matched with the type of recording element being used in the printer.

8. Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent et al. (US 5,041,846).

With respect to claim 20, Vincent et al. disclose the claimed apparatus except that they do not specify that the amount of carrier removed from the recording element is the minimum amount necessary to prevent blistering of the recording element. Vincent et al. discloses an apparatus and method for treating a recording element including a carrier removal station (heater 70) for removing carrier by drying liquid in the carrier, and a converting station (rollers 130,150, col. 4, lines 35-45) which dries the ink and makes the recording element more durable as shown in Figure 4 of Vincent et al. While Vincent et al. does not explicitly recite that a predetermined percentage of carrier is removed, it is inherent in the design of the system that the carrier removed be within an adequate, predetermined range that achieves the desired function without removing too much carrier and causing damage to the recording element. With respect to the predetermined percentage of the carrier that is removed being based on a minimum amount that needs to be removed to prevent blistering, this determination is a functional recitation. The apparatus disclosed by Vincent et al. has the capability to remove the required amount of carrier regardless of how the predetermined percentage was calculated. With respect to the amount of carrier that is removed from the recording element being a minimum amount necessary to prevent blistering of the recording element, this language is being interpreted to mean that the minimum amount to prevent blistering is also a minimum amount to remove a certain desired amount of carrier. It would have been obvious to one of the ordinary skill in the art to use the least amount of energy in order to achieve the desired carrier removal since the use of less energy will reduce costs.

With respect to claim 21, Vincent et al. discloses that the step of increasing the durability of the recording element includes applying pressure (col. 4, lines 55-59).

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With respect to claim 22, Vincent et al. discloses that the step of increasing the durability of the recording element uses heat (col. 4, lines 35-36).

With respect to claim 23, the carrier removal station 70 includes heating element 80 for applying heat to the recording element as shown in Figure 2 of Vincent et al.

9. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over the first interpretation of Vincent et al. (US 5,041,846), as applied to claim 1 above, and further in view of Takekoshi et al. (US 2003/0234847).

Vincent et al. discloses the claimed apparatus except for the exhaust fan. Takekoshi et al. discloses exhaust fan 220. It would have been obvious to combine the teaching of Takekoshi et al. with the apparatus disclosed by Vincent et al. for the advantage of exhausting excess heat that might interfere with normal machine operation.

10. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over the first interpretation of Vincent et al. (US 6,444,379) as applied to claim 1 above, and further in view of Peter (US 6,283,590).

Vincent et al. discloses the claimed apparatus for treating a recording element except for the cooling air flow. However, Peter teaches a system for treating a recording element including a carrier removal station 60 with a cooling fan 62 which provides a cooling air flow. It would have been obvious to combine the teaching of Peter with the system for treating a recording element disclosed by Vincent et al. for the advantage of preventing damage to the recording element should it stall or jam (Peter et al., col. 4, lines 1-11).

***Allowable Subject Matter***

11. Claims 10, 14-17 and 25-30 are allowed.
12. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
13. Claim 24 would be allowable if rewritten or amended, to the satisfaction of the examiner, to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
14. The following is a statement of reasons for the indication of allowable subject matter:  
  
Claims 9 and 10 have been indicated as containing allowable subject matter primarily for the preheating station positioned between the carrier removal station and the converting station.

***Response to Arguments***

15. Applicant's arguments, filed on 10/12/05, with respect to the 112, first paragraph rejection have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Vincent et al. (US 5,041,846). Vincent et al. does not apply any further structure or substance to the recording element in the converting station. Vincent et al. only discloses using heat and pressure to apply durability to the recording element.

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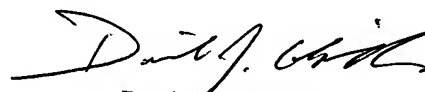
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Okubo et al., Wotton et al., and Sekiya are cited to show other examples of apparatus with converting and carrier removal stations.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Colilla whose telephone number is 571-272-2157. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 19, 2005



Daniel J. Colilla  
Primary Examiner  
Art Unit 2854